IN THE CLAIMS:

Please cancel claims 1-28 without prejudice or disclaimer, and substitute new claims 29-56 therefor as follows:

Claims 1-28 (Cancelled).

29. (New) A multi-stage optical amplifier to amplify a transmission signal Including a signal wavelength comprising

a first amplifying stage including a rare-earth doped optical active fiber;

a second amplifying stage connected to said first amplifying stage, said second amplifying stage comprising a tellurite-based active fiber doped with a rare earth element; and

a third amplifying stage connected with said second amplifying stage, said third amplifying stage including a silica-based fiber.

30. (New) The multi-stage optical amplifier according to claim 29, wherein said first, second and third amplifying stages are connected in series.

31. (New) The multi-stage optical amplifier according to claim 29, wherein said signal wavelength is 1530 to 1625 nm.

32. (New) The multi-stage optical amplifier according to claim 29, wherein an input signal carries a given number of optical channels having wavelengths of about 1530 nm and 1625 nm.

33. (New) The multi-stage optical amplifier according to claim 29, wherein said rare earth doped active fiber of said first amplifying stage is an erbium doped active fiber.

34. (New) The multi-stage optical amplifier according to claim 29, wherein said rare-earth doped active fiber of said first amplifying stage is a silica-based active fiber.

35. (New) The multi-stage optical amplifier according to claim 29, wherein said first amplifying stage comprises a first pumping source to supply a first pumping radiation to said rare-earth doped active fiber at a first pump wavelength.

36. (New) The multi-stage optical amplifier according to claim 35, wherein said first pumping radiation and said transmission signal are co-propagating within said rare-earth doped active fiber.

37. (New) The multi-stage optical amplifier according to claim 35, wherein said first pump wavelength is substantially equal to 980 nm.

38. (New) The multi-stage optical amplifier according to claim 29, wherein an optical isolator is located between said first and said second amplifying stages.

39. (New) The multi-stage optical amplifier according to claim 29, wherein an optical isolator is located at an input of said first amplifying stage.

40. (New) The multi-stage optical amplifier according to claim 29, wherein said tellurite-based active fiber doped with a rare-earth element of said second amplifying stage is a tellurite-based erbium doped active fiber.

41. (New) The multi-stage optical amplifier according to claim 29, wherein said second amplifying stage comprises a second and a third pumping source for supplying second and third pumping radiation at second and third pump wavelengths, respectively, to said tellurite-based active fiber doped with a rare-earth element.

42. (New) The multi-stage optical amplifier according to claim 41, wherein said second pumping radiation and an optical signal outputted by said first amplifying stage

are co-propagating, and said third pumping radiation and said optical signal outputted by said first amplifying stage are counter-propagating within said tellurite-based active fiber doped with a rare-earth element.

43. (New) The multi-stage optical amplifier according to claim 41, wherein said second and third pump wavelengths are both substantially equal to 1480 nm.

44. (New) The multi-stage optical amplifier according to claim 29, wherein said silica-based fiber of said third amplifying stage is a rare-earth doped active fiber.

45. (New) The multi-stage optical amplifier according to claim 44, wherein said silica-based fiber of said third amplifying stage is an erbium-doped active fiber.

46. (New) The multi-stage optical amplifier according to claim 29, wherein said third amplifying stage comprises a fourth and a fifth pumping source for supplying a fourth and fifth pumping radiation at a fourth and fifth wavelength, respectively, to said silica-based fiber.

47. (New) The multi-stage optical amplifier according to claim 46, wherein said fourth pumping radiation and an optical signal outputted by said second amplifying stage are co-propagating, and said fifth pumping radiation and said optical signal outputted by said second amplifying stage are counter-propagating, within said silica-based fiber.

48. (New) The multi-stage optical amplifier according to claim 46, wherein said fourth and fifth pump wavelength are both substantially equal to 1480 nm.

49. (New) The multi-stage optical amplifier according to claim 29, wherein said silica-based fiber is a Raman-active fiber.

50. (New) The multi-stage optical amplifier according to claim 49, wherein said silica-based fiber is a dispersion compensating fiber.

51. (New) The multi-stage optical amplifier according to claim 49, wherein said third amplifying stage comprises a pumping source for supplying a pumping radiation at a pump wavelength to said Raman-active fiber.

52. (New) The multi-stage optical amplifier according to claim 51, wherein said pumping radiation and an optical signal outputted by said second amplifying stage are counter-propagating, within said Raman-active fiber.

53. (New) The multi-stage optical amplifier according to claim 51, wherein said pump wavelength is substantially from 1460 to 1500 nm.

54. (New) The multi-stage optical amplifier according to claims 29, wherein a gain equalizer is interposed between said second and third amplifying stages.

55. (New) The multi-stage optical amplifier according to claim 29, wherein an optical isolator is interposed between said second and third amplifying stages.

56. (New) The multi-stage optical amplifier according to claim 29, wherein an optical isolator is inserted at the output of said third amplifying stage.